

Loss Mitigation Grant Program Wind Resistive Device (WRD) Product Evaluation

The product as described herein has been evaluated by the Department of Commerce and Consumer Affairs (DCCA) for compliance with the technical requirements for wind resistive devices installed in single or multi-family residential dwellings. Installation costs of approved products are partially reimbursable under the provisions of the Loss Mitigation Grant Program. The results of the product evaluation are presented in the following report.

1.0 Product Information

1.1 Product Name:

Hurricane Screen

1.2 Description:

Hurricane Screen is a porous woven polypropylene textile fabric designed to provide impact protection to glazed openings.

1.3 Category:

Submitted for evaluation as a WRD option 3- Exterior opening protection

1.4 Submitted By:

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2.0 Product Evaluation

2.1 Wind Loads:

a. Static Pressure:

Hurricane Screen was tested per ASTM E330-02, "Test Method for structural performance of exterior windows, curtain walls, and doors by uniform static air pressure difference." The results of these tests and allowable loads are given in table 1.

Table 1. Static Pressure Test Results

Test Method	Test Conditions	WRD Requirements	Test Conclusion
Static Load Test	+90.0 psf, -90.0 psf	IBC Section 1714.5.2	PASS

b. Cyclic Wind Pressure Loading:

Following large missile impact testing, units were tested under ASTM E1886-99, "Standard test method for performance of exterior windows, curtain walls, doors and storm shutters impacted by missile and exposed to cyclic pressure differentials." The results of the test are included in table 2.

Table 2. Cyclic Loading Test Results

Test Method	Test Conditions	WRD Requirements	Test Conclusion
Cyclic Load Test	+60.0 psf, -60.0 psf	+25.0 psf, -35.0 psf	PASS

2.2 Impact Resistance:

Hurricane Screen was tested per ASTM E1996. A #2 southern yellow pine 2x4 measuring 84" in length and weighing 9.25 lbs. was fired at a speed of 50 feet/second (missile impact D), and the panel passed per ASTM E1996 requirements.

Table 3. Impact Test Results

Test Method	Test Conditions	WRD Requirements	Test Conclusion
Impact Test	Missile Type D	Missile Type C	Very High Deflections*

*Although technically the product passed the impact tests, the recorded deflections were in the range of 18.5" at the center of the screen.

2.3 Installation:

Hurricane Screens are to be installed in accordance with the manufacturer's published installation instructions, engineering drawings and this report.

The manufacturer's published installation instructions and this report shall be strictly adhered to and a copy of these shall be available at all times on the job site during installation.

2.4 Substantiating Data:

- a. Drawing No. 07-101, titled "Wind Abatement Panel System", sheets 1 through 3 of 3, dated 4/17/07, prepared by EngCo, Inc., signed and sealed by Pedro De Figueiredo, P.E. (FL License No. 52609)
- b. Test Report on Large Missile Impact Test, Cyclic Wind Pressure Test, and Uniform Static Pressure Test on Polypropylene Screen, prepared by Fenestration Testing Laboratory, Inc., File No. 07-541, Test Report No. 01 dated 4/16/2007, Signed and Sealed by Pedro De Figueiredo, P.E. (FL License No. 52609)

3.0 Findings

Evaluation in review of the submitted data indicates that Hurricane Screen as described in this report does not conform to the requirements of the loss mitigation grant program and is not an acceptable WRD for use on window, door, sliding glass door, garage, or skylight glazed openings.

Although no separation from fenestration is required per ASTM E1996-05 for the Missile Impact C rating, this device will not perform its intended function (prevention of glazing failure) unless a minimum separation of at least the maximum recorded test deflection plus 25% is maintained. This is not possible given the attachment details provided, which do not allow for the minimum required separation. This product may be approved provided that this issue is addressed and alternative attachment methods are given.

3.1 Limitations:

- a. Hurricane Screen is not an approved product for the WRD Loss Mitigation Grant Program.

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Product Examiner
June 13, 2007